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ABSTRACT

A study examined patterns of attrition in the California Conservation Corps (CCC), a state-funded program that is offered for the dual purpose of conducting useful conservation work and promoting the employability of youth. The attrition analysis was based on the actual intake program and separation experience of 3,224 corpsmembers who entered the CCC between November 1, 1983 and October 31, 1984. Data were obtained from a baseline questionnaire given to 91 percent of the program participants at the time of their enrollment, payroll records (that included information on raises, promotions, and transfers), and separation records. It was discovered that attrition from CCC is high. The mean length of stay in the CCC was 5.1 months, and 18 percent of the corpsmembers left the program directly from the training academy. It was concluded that this high attrition rate may be the inevitable outcome of combining work production with the pursuit of youth development goals. Race, ethnicity, sex, and income status appeared to have little effect on attrition; the level of education did, however, appear to be strongly associated with higher program completion rates. It was concluded that length of stay in the CCC cannot be predicted on the basis of information that can be measured at the time a corpsmember enters the program. Thus, although it is unlikely that attrition can be managed by manipulating the composition of the corps, the data may enable program practitioners to address some of the reasons for attrition. (MN)

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The California Conservation Corps

A Report on Attrition

by Richard Voith
Sally Leiderman

December 1986

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This report is the fourth in a series of five reports on the California Conservation Corps prepared by Public/Private Ventures. The first three are an analysis of participant characteristics, a case study that focuses on implementation, and a review of the value of CCC work. The fifth and final report will assess the impact of the corps on participants. The authors wish to thank The Ford Foundation, the Charles Stewart Mott Foundation, The William and Flora Hewlett Foundation and the State of California for supporting this research. We also want to thank the staff and corpsmembers of the California Conservation Corps for their longstanding cooperation.

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EXECUTIVE SUMMARY

The California Conservation Corps (CCC) is a state-funded program with dual goals: conducting useful conservation work and promoting the employability of youth. It is one of a class of youth programs that includes the original Civilian Conservation Corps of the 1930s, the more recent federal Youth Conservation Corps and Young Adult Conservation Corps programs, and nearly 30 year-round state and local conservation/service corps.

Among the current corps, the CCC is the largest, the oldest and widely regarded as one of the strongest. With an FY 1986-87 budget of $48 million, it has a staff of 386 and 2,170 annual slots. The CCC is open to any Californian between the ages of 18 and 23 who is not on probation or parole.

Corpsmembers work on conservation-related projects conducted in cooperation with other agencies. Youth enroll in the program for one year as regular corpsmembers, but can stay an additional year if they are promoted to crewleader or specialist. Corpsmembers attend a training academy (for three weeks during the P/PV study, currently 10 days), and then are assigned to a center where they work in crews and participate in educational and community activities. Today, about three-fourths of the corpsmembers are enrolled in 18 residential centers; the balance work out of 20 non-residential satellites to which they commute daily.

In 1983, P/PV began a three-year assessment of the CCC program. It was designed to give the CCC itself, other corps and national policymakers some information on its implementation and effects. The attrition analysis is the fourth in a series of five reports. The first three analyze participant characteristics, program implementation and the dollar value of CCC work. The fifth and final report will assess the impact of the corps on participants.

The three-year assessment of the CCC is funded by The Ford Foundation, The William and Flora Hewlett Foundation, Charles Stewart Mott Foundation and the State of California. The five reports also contribute to a broader study of youth corps programs that P/PV is conducting for The Ford Foundation.

THE ATTRITION ANALYSIS

This report examines patterns of attrition in the CCC: how long corpsmembers stayed in the program, who stayed, who left, and why. The analysis of rates of completion, length of stay and reasons for leaving was designed to serve three basic purposes. The first was to pursue answers to two social policy questions about youth service and conservation corps generally: does an

emphasis on production, discipline and high standards of participant behavior result in unacceptable levels of attrition, and do untargeted corps programs effectively serve the wide range of corpsmembers that enroll. The second purpose was to provide the CCC with information necessary for planning recruitment, training, work and education programs. Third, the study was designed to lay the groundwork for the subsequent impact analysis, which requires precise information about each corpsmember's exposure to such aspects of the CCC experience as training, residential and non-residential centers, promotions and pay increases.

The P/PV attrition analysis was based on the actual intake, program and separation experience of 3,224 corpsmembers who entered the CCC from November 1, 1983 through October 31, 1984. Data came from a baseline questionnaire given to 91 percent of corpsmembers who enrolled during that time; from payroll records that include information on corpsmember promotions, raises and transfers between centers; and from separation information entered into an MIS that P/PV helped to install. Attrition analyses are based on actual separation dates; thus, findings are not biased.

CONCLUSIONS

Attrition is high, and may be the inevitable outcome of combining work production with the pursuit of youth development goals.

Mean length of stay in the CCC was 5.1 months; one in five corpsmembers completed the 12-month program. Attrition was highest in the first month, during which nearly all corpsmembers attended a training academy -- 18 percent of all corpsmembers left the program directly from the training academy, 70 percent of them in their first week in the CCC. However, after the first month, attrition was fairly steady: of those still in the program, about 15 percent left each month in months two through four, and about 11 percent left each month thereafter.

Rates of attrition and completion were similar for residential and non-residential corpsmembers and did not vary by calendar month or season of the year.

It is difficult to conclude, based on the available information, whether this level of attrition was functional or dysfunctional. On the one hand, a moderate level of attrition is useful. The corps maintains strict standards to ensure that productive work is done and, as a conscious tool of training, rewards good work habits and insists on conformity to rules. Evidence presented in an earlier report on the value of CCC work suggests that the CCC, following these policies, accomplished a substantial amount of valuable work for the state. These policies, though they result in attrition, may also be useful for achieving youth development

objectives by illustrating the consequences of inappropriate behavior.

On the other hand, substantial attrition can be costly -- it is burdensome to staff responsible for recruitment and training and interferes with delivery of remediation and other youth development programming. Some evidence suggests that the CCC experiences some difficulty in maintaining its budgeted slot level; high attrition is a contributing factor. Short lengths of stay also limit the CCC's ability to meet some youth development goals. Therefore, the CCC needs to recognize that most corpsmembers stay less than a full year when it plans education, skills training, specialized center assignments and promotions. To maximize the likelihood that a corpsmember will be exposed to development opportunities, these programs need to be introduced early, with short-term as well as long-term objectives.

Finally, the magnitude and timing of attrition can not in themselves indicate the impact of the CCC on corpsmembers. Thus no conclusions can be drawn about whether the CCC's mean length of stay was sufficient to affect participants' lives in terms of employability, attitudes or income. The impact study, to be published later this year, will address these issues.

<u>For the most part, the CCC equitably serves the wide range of youth who enroll. Race, ethnicity, sex and income status had little affect on attrition; level of education did.</u>

There were no substantial differences in attrition rates between men and women nor in rates of completion by black, white and Hispanic corpsmembers; there was a very small difference between blacks and Hispanics in length of stay. While attrition rates for Asians were significantly lower than those of other groups -- nearly one-third of Asians completed the program and the average duration of stay was 6.3 months -- they are such a small part of the CCC population that their effect on overall attrition patterns was quite small.

Economic status was also not strongly related to attrition. P/PV's earlier study of CCC participants found that about 48 percent came from families with income qualifying them for enrollment in the Job Training Partnership Act programs. The attrition analysis found only small differences between the attrition rates of these corpsmembers and those who were not JTPA-eligible.

Corpsmembers with more education stayed in the corps longer and were more likely to complete the program than those with less education. Youth with more than 12 years of education stayed 1.2 months longer than high school graduates; those with fewer than 12 years of education stayed .7 months less than high school graduates. More educated corpsmembers also had higher completion

rates -- about 30 percent remained the full 12 months or more -- and were more likely to be promoted to crewleader or specialist positions.

The only other factors related to attrition were wanting to move away from home, having children, reporting frequent consumption of alcohol and coming from a large city. Wanting to move away from home, in addition to high school education, increased the probability of a corpsmember completing a full year with the CCC. Having children, reporting frequent consumption of alcohol and coming from a large city reduced that probability.

Because corps are being looked to as an employment and training option, it was of particular interest to see how disadvantaged youth fared. Both poor and non-poor youth enrolled in this non-targeted program had similar retention experiences. They stayed roughly the same length of time and had roughly comparable patterns of attrition. But educationally disadvantaged youth, who also enroll in substantial numbers, had a more difficult time. They left at higher rates than their more educated peers.

Length of stay cannot be predicted based on information that can be measured at the time a corpsmember enters; thus, it would be difficult to manage attrition by manipulating the composition of the corps. However, data do provide some insights into reasons for leaving that may provide guidance to management.

Five kinds of factors can affect attrition: demographic characteristics; personal attitudes; exposure to components of the CCC; a corpsmember's personal experience of the program; and events occurring outside the CCC. Little of the variance in attrition was explained by the first three factors, the only ones that could be measured. For example, even though the effects of high school graduation and/or post high school education on length of stay were significant, they were not sufficiently large to predict with certainty how long any individual would stay in the corps. And even if all corpsmembers who did not have more than a high school education were eliminated from the CCC (about 90 percent of the sample), the mean length of stay would increase by only one month, or 20 percent. Events outside the CCC, such as family problems or employment opportunities, and an individual's personal experience of the CCC appeared to be the key, but incalculable, factors that affected length of stay.

While, for the most part, the magnitude and rates of attrition seemed unrelated to characteristics of corpsmembers, reasons for leaving were. Of those corpsmembers who left before completing a year, 57 percent left voluntarily and 43 percent were fired. The study found that income status had no relationship to whether a youth resigned or was fired, but sex, race and education did. Males, blacks, and high-school drop-outs were fired more often than females, non-blacks and persons with post high school

education. About 53 percent of attrition among black corpsmembers and high school dropouts was involuntary, as it was for 48 percent of males, compared to 42 percent for non-blacks, 27 percent for those with more than 12 years of education, and 25 percent for women. This suggests that some groups might have more difficulty navigating the CCC, that they were less prepared for it, or simply that they experienced the corps in different ways. Since one's experience of the corps as well as one's outside opportunities remained the key variables in affecting attrition, the CCC may be able to manage attrition more effectively by developing a better understanding of why certain corpsmembers are more likely to leave involuntarily.

Nearly three-fourths of the corpsmembers who separated in the first month, when attrition was highest, asked to leave. An entering corpsmember's attitudes were significantly related to the probability of completing the first month. Marriage, original residence in a large city, enrollment in a residential center, poor physical condition and leaving school to join the CCC -- none of which appeared to influence later attrition -- were significant contributors to dropping out in the first month. If a corpsmember disliked letting people down and/or thought using land for parks was a good idea, he/she was less likely to leave in the first month.

At the time of the study, most residential corpsmembers (about 90% of all corpsmembers in the sample) joined the CCC without any first-hand knowledge of the program, although many knew of it from friends or relatives who were corpsmembers. First-month attrition could likely be reduced by requiring more face-to-face contact between CCC staff and corpsmembers prior to enrollment. Since the group under study enrolled in the CCC, the corps has changed its recruitment policy in just this way. They report that this has, in fact, lowered first-month attrition.

Finally, because women remained in the corps as long as men and were less likely to be fired, and because the CCC -- while it has difficulty recruiting women in equal proportion to men -- does enroll hundreds of women each year, the study suggests that the CCC model may be a means to provide many women with non-traditional work experience.

I. INTRODUCTION

The California Conservation Corps (CCC) is a state-funded program with dual goals: conducting useful conservation work and serving youth. It is one of a class of youth programs that includes the original Civilian Conservation Corps of the 1930s, the more recent federal Youth Conservation Corps (YCC) and Young Adult Conservation Corps (YACC) programs, and nearly 30 year-round state or local corps.

The CCC is the largest, the oldest, and widely regarded as one of the strongest of the current corps. With a budget of $48 million for FY 1986/87 (July 1986 through June 1987), it has a staff of 386 and maintains 2,170 annual slots for corpsmembers between the ages of 18 and 23. About three-fourths of the corpsmembers are enrolled in 18 residential centers; the remaining quarter attend the 20 non-residential satellites located throughout California.

Corpsmembers work on conservation-related projects in cooperation with other agencies. They enroll in the program for one year as regular corpsmembers, but can stay an additional year if they are promoted to the position of crewleader or specialist. Corpsmembers attend a training academy and then are assigned to a center where they work in crews and attend educational and other activities.[1] Most corpsmembers also live in these centers; non-residential corpsmembers commute to their satellite centers daily.

This report examines the patterns of corpsmember attrition in three aspects: rates of completion, length of stay and reasons for leaving. The attrition analysis is the fourth in a series of five reports on the CCC prepared by P/PV. The first three are an analysis of participant characteristics, a case study that focuses on implementation, and a review of the value of CCC work. The fifth and final report will assess the impact of the corps on participants.

An understanding of attrition is important for several reasons. First, information on who completes the program, who leaves before completing, and when and why they leave is needed for management purposes. This kind of descriptive information can help the corps better plan its recruitment, training, work and educational programs.

Second, attrition information is basic to measuring the corps' impact on participants. P/PV's analysis of the economic and non-economic impact participation may have on corpsmembers requires

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[1] At the time of the study, corpsmembers generally attended the training academy for three weeks; since then it has been shortened to 13 days.

precise information about each corpsmember's exposure to various aspects of the CCC experience, including training, residential and non-residential centers, promotions and pay increases and the like. An examination of attrition provides much of this information.

Third, an analysis of attrition in the CCC can provide insights into two social policy questions about youth service and conservation corps in general: one, do untargeted corps programs effectively serve the wide range of corpsmembers that enroll, and two, does an emphasis on production, discipline and high standards of participant behavior result in unacceptable levels of attrition.

The first question arises because, though corps receive public funds, many have no socioeconomic, educational or employment-related criteria that define eligibility. Therefore, it is important to know how economically and educationally disadvantaged youth fare in such programs. An earlier report confirmed that large numbers of such youth enter the CCC. The attrition study addresses how long these youth remain in the corps, why they leave, and whether their patterns of attrition are similar to or different from those of other corpsmembers. The analysis of attrition in the CCC provides evidence about whether and how well untargeted programs can serve disadvantaged youth.

The second question concerns whether or not the production-driven standards of the CCC produce a level of attrition unacceptable from either a cost or social policy perspective. First, it must be noted that there are a number of reasons why a certain amount of attrition is inevitable: although corpsmembers sign up for a twelve-month stay, they are free to leave at any time. At the time of the study no incentives were specifically built into the program to encourage them to complete the year.[2] Corpsmembers may enter the corps with only a limited understanding of what they will find and what will be expected from them. During the study year, this was particularly likely for residential corpsmembers. At that time, they were recruited primarily through state unemployment offices in their hometowns, where recruiters might not have been familiar enough with the CCC to provide accurate information. Since then, recruitment procedures have changed so that entering corpsmembers are likely to have been briefed directly by the CCC. Corpsmembers may also have outside family responsibilities and/or employment or training opportunities that compete with CCC service.

Beyond these factors, however, are a number of special considerations that arise from the production orientation of the CCC.

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[2] The CCC has recently included some incentives to encourage youth to stay the full year. These include merit salary adjustments and a scholarship/bonus plan.

Once corpsmembers enter the corps, they are expected to work hard, obey rules, accept discipline, get along with other corpsmembers whose backgrounds may be very different from their own, and participate in educational and other activities outside of working hours. In order to uphold these standards, the corps maintains and exercises its right to fire corpsmembers. In addition, not all corpsmembers choose to accept these conditions, so many leave voluntarily.

Though some attrition is functional, too much attrition can be counterproductive. High attrition places a burden on recruitment, training, and administrative staff; it affects production; and it can inhibit the delivery of education and youth development services. An understanding of attrition in the CCC can provide a benchmark for other corps and guidance to other program planners.

In order to address these questions, the following information about attrition is contained in this report:

- The timing of attrition for a group of corpsmembers -- how many complete the corps, when the others leave, and their reasons for leaving.
- Whether the timing of attrition differs by program characteristics -- for residential or nonresidential corpsmembers, for the first month and subsequent months, while in training, and by calendar month of entry.
- Whether and how the timing of attrition differs for various demographic and socioeconomic groups.
- What factors or combination of factors appear to influence attrition.

METHODS

The attrition analysis was based on the actual intake, program and separation experience of 3,220 corpsmembers who entered the CCC from November 1, 1983 through October 31, 1984. Data came from three sources. Entry data and the demographic characteristics of corpsmembers were taken from a baseline questionnaire administered to nearly all corpsmembers (97 percent) who attended the CCC training academy at that time. (These data were fully reported in The CCC: An Analysis of Participant Characteristics.) Most corpsmembers begin their tenure in the CCC at the training

academy, so for most, entry date is the first day of training.[3] The actual termination data for all corpsmembers in the sample were taken from CCC payroll records, as was information about promotions, pay raises and transfers between CCC centers.[4] Reason for separation and some other separation information were taken from forms completed by the CCC and entered into a management information system which P/PV helped to install.

The analyses are based on complete attrition experience for the sample. Several entering groups were examined for the duration of time necessary to allow all of them to have left the corps. This method avoids biases that occur when some members of the sample are still active at the time data collection is stopped. These biases depress mean length of stay since active corpsmembers, by definition, will stay in the corps longer than those who have already left from the same entering group. For this study, participation data were collected for at least one year beyond the date each group entered the CCC. Thus, the entire length of each corpsmembers' stay with the corps was measured, with the following proviso.

According to CCC policy, corpsmembers sign a contract to stay in the CCC for 12 months. If they are promoted, or receive special administrative permission, they may stay longer. In all, 497 corpsmembers (15 percent) remained in the CCC after their initial 12-month appointment. We consider staying with the corps past 12 months as a post-program outcome (being employed by the CCC) rather than a continuation of participation as a corpsmember. Thus, length of stay was truncated at 12 months.

This decision seemed consistent with CCC design and intent, and presented two analytic implications: First, it meant that complete duration data are available for all corpsmembers, since data are available for at least 12 months after each group entered the corps. However, it also meant that summary statistics on length of stay have an upper bound of 12 months (or 365 days) and could be viewed as underestimates.

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[3] In a limited number of cases this may not correspond to the beginning of the individual's association with the corps. A small number of individuals were second-time CCC members or had brief field work prior to entering the training academy.

[4] For 15 cases, the only data on termination date were that they left before completing the training academy. For this group, the termination date was set at seven days after entry. This corresponds to the average duration of those leaving the academy for which we have exact termination data.

ANALYSIS

Simple descriptive statistics and multivariate analytical techniques were used to examine attrition. Much of the analysis focused on length of stay and program completion. Mean lengths of stay and percentages completing the program were compared across groups in bivariate analyses to check for overall differences among groups. Multivariate analyses, such as regression and probit[5] models, were also used in an attempt to determine the underlying factors affecting attrition. These models hold constant a number of different variables that could affect attrition.

Simple crosstabulations as well as multivariate analyses were also used to analyze the reasons for separations across various demographic groups. These analyses add to an interpretation of length of stay and completion results.

ORGANIZATION OF REPORT

The remainder of this report is organized as follows: Chapter II describes the timing of attrition -- including how many complete the 12-month program, and the lengths of stay for those who leave earlier. Attrition patterns for the sample as a whole are presented first. Next, differential attrition for certain program components are assessed. Following that, the timing of attrition by race/ethnicity, sex and other demographic characteristics is analyzed, first using bivariate and then multivariate analyses. Chapter III includes a parallel discussion of reasons why corpsmembers leave, first for the sample as a whole, and then for different program components and subgroups of corpsmembers. The fourth chapter discusses some particular aspects of attrition and presents some additional analyses about issues that emerge from earlier discussions. Chapter V concludes the report with a summary of findings and policy implications.

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[5] Probit models are non-linear estimation techniques used when the dependent variable is dichotomous.

II. TIMING OF ATTRITION

This chapter presents a statistical description of the timing of CCC attrition. The timing of attrition is first discussed for the entire program, then by program components, and finally by demographic groups. Simple crosstabs are used to assess the probability of completion and mean length of stay by alternative program or demographic groups. Multivariate analytical techniques are used also to determine the effects of demographic and attitudinal variables on the probability of completing the program and length of stay, holding the others constant. In the following chapter, corpsmembers' reasons for leaving are discussed. Based on these two chapters, issues requiring additional analysis are examined in the final chapter.

TIMING OF ATTRITION

Overall

Nearly 82 percent of all corpsmembers left the CCC before their twelve-month term was complete. Mean length of stay in the CCC was 5.1 months. The median number of days corpsmembers stayed was 107 or 3.5 months.[6] When attrition measures are calculated only for those completing the training academy, the length of stay was increased to 6.2 months, the median was 5.0 and almost 22.5 percent of corpsmembers completed the program.

The mean length of stay for corpsmembers in the CCC is within the range of most other corps for which some indications about attrition are available. It is difficult to make straightforward comparisons between the CCC and other corps; the measure of length of stay in the CCC is not subject to truncation bias, and most estimates for other corps are. This is because an accurate measure of attrition requires looking at several cohorts of incoming corpsmembers for a sufficient length of time to allow all of them to have left the corps. P/PV is collecting such data from several corps prospectively as part of its Youth Corps Assessment Project; results are not yet available. However, some

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[6] One might wonder how much higher the mean length stay would be if lengths of stay beyond 12 months were included in the calculation. Unfortunately, completion dates beyond 12 months are not available for all members of the sample. However, the mean length of stay of all corpsmembers in the sample for whom a separation date is available is 5.5 months when CCC experience past 12 months is included; if data past 12 months were available for every corpsmember the mean length of stay would, of course, be higher.

rough comparisons are possible based on early data. Mean lengths of stay from truncated samples of corpsmembers in the San Francisco Conservation Corps and the City Volunteer Corps in New York -- both non-residential, urban corps -- were about three months. These figures will undoubtedly rise somewhat when data are available for the full samples being tracked, since those who were still active at the truncation point had longer lengths of stay, on average, than those who had left. The Michigan Civilian Conservation Corps, a primarily rural and non-residential corps, reported a mean length of stay of five months for all corpsmembers over several years. By contrast, Katimavik, a nine-month residential program that moved participants through both urban and rural components, had a mean length of stay of 212 days or about seven months. Seventy percent of participants who entered Katimavik in Program Year VIII -- 1984 through 1986 -- completed their nine month stay.[7] (Public/Private Ventures, 1986)

The overall cumulative pattern of attrition for the CCC is shown in Table II.1, which gives the percentage of total corpsmembers remaining by the number of months they stayed. The greatest number of corpsmembers left the program in the first month, and the number of corpsmembers leaving the program declined over time. Cumulative patterns of attrition must be interpreted with care, however, since the falling number of departures over time may be a result of either a decreased propensity to leave the CCC as length of stay increases or simply a result of the fact that there are fewer people in the CCC each month who have not already left. The number leaving in the sixth month, for example, might be smaller than the number leaving in the first month simply because the pool of corpsmembers remaining by the sixth month is smaller. Looking at the percentage of total corpsmembers who leave in any month can be misleading if one is interested in the propensity to leave after a given length of stay in the CCC.

A better indicator of the differential probability of leaving the CCC as length of stay changes is the conditional probability shown in Table II.2. These probabilities are calculated by dividing the number leaving in the month immediately after month n by the total number with at least n months tenure. For example, the probability of leaving in the seventh month would be equal to the number leaving in the seventh month divided by the number with at least six months' tenure. This probability is independent of the level of attrition in prior months and thus is very useful for comparing differences in attrition across months. These statistics show directly whether individuals with, for example, one month's tenure are as likely to leave in the second

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[7] A fuller comparison of attrition including reasons for differences across corps will be produced as part of P/PV's Assessment of Youth Corps study.

Table II.1

Cumulative Pattern of Attrition

Number of Months in CCC (n)	Corpsmembers Leaving in Month n	Corpsmember Percent of Total	Percent of Corpsmembers Remaining
1	732	22.7%	77.3%
2	347	10.8	66.5
3	351	10.9	55.6
4	280	8.7	46.9
5	195	6.1	40.8
6	141	4.4	36.4
7	131	4.1	32.3
8	121	3.8	28.5
9	93	2.9	25.6
10	90	2.8	22.8
11	81	2.5	20.2
12	67	2.1	18.1

Total corpsmembers: 3,220

Table II.2

Conditional Pattern of Attrition

Number of Months in CCC (n)	Total Corpsmembers With n Months Tenure	Corpsmembers Leaving Next Month	Probability of Leaving in Month n+1
0	3,220	732	22.7
1	2,488	347	13.9
2	2,141	351	16.4
3	1,790	280	15.6
4	1,510	195	12.9
5	1,315	141	10.7
6	1,174	131	11.2
7	1,043	121	11.6
8	922	93	10.0
9	829	90	10.9
10	739	81	11.0
11	658	67	10.2

month as individuals with six months' tenure are to leave in the seventh.

As Table II.2 shows, corpsmembers have a much higher probability of dropping out in their first month in the corps than in any subsequent month. The probability of leaving is quite similar across months two, three and four, with an average monthly probability of 15.3. The subsequent eight months have lower departure rates as the average monthly probability of leaving in the last eight months is small. Thus, the probability that a person would leave the program in the sixth month is nearly the same as it is for the tenth month.

Month of Departure

An analysis of departure from the CCC by calendar month indicates that there was little seasonal pattern to CCC attrition. One might expect that at Christmas or at the beginning of school semesters in September or January there might be higher CCC attrition. As shown in Table II.3, the percentages of CCC members leaving in each of the 12 calendar months were very similar.[8] Thus, it does not appear that easily isolated seasonal factors influenced CCC attrition.

Residential and Non-residential Programs

The timing of attrition was quite similar for residential and non-residential programs. That is, 18.4 percent of residential corpsmembers completed the program compared with 18.2 percent of non-residential corpsmembers, a statistically insignificant difference. The average length of stay was 5.1 months for both residential and non-residential corpsmembers, with the median length of stay at 107 and 103 days, respectively.

The patterns of attrition for residential and non-residential corpsmembers are shown in Tables II.4 and II.5. These tables are analogous to Tables II.1 and II.2 presented earlier. Since both groups attend the training academy, one would expect that first month attrition would be similar. This is, in fact, true as 23 percent of residential as compared to 20.2 percent of non-residential corpsmembers leave the CCC in the first month; the difference is not statistically significant. For both residential and non-residential corpsmembers, the probability of

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[8] The percentages are calculated as the percent of corpsmembers who are active on the first day of the month that depart before the end of the month. Except for the month of November, none of the months are significantly different from one another.

Table II.3

Percent Attrition by Calendar* Month

Month	Number of Active Corpsmembers	Percent of Active Corpsmembers Departing
January	1,459	8.7%
February	1,607	9.3
March	1,723	10.7
April	1,808	9.8
May	1,885	11.5
June	1,921	11.3
July	2,300	12.3
August	2,288	11.7
September	2,290	12.5
October	2,233	11.6
November	1,514	13.3
December	1,443	11.9

*The number of active or departing corpsmembers in any given calendar month is aggregated across years.

Table II.4

Cumulative Pattern of Attrition for Residential and Non-residential Corpsmembers

Number of Months in CCC (n)	Percent of Total Sample Leaving During the n^{th} Month	
	Residential	Non-residential
1	23.0%	20.2%
2	10.6	11.8
3	10.7	12.8
4	8.5	10.0
5	6.1	5.7
6	4.5	3.1
7	4.3	2.7
8	3.7	4.6
9	2.7	4.3
10	2.8	3.1
11	2.6	1.7
12	2.1	1.7
Percent completing	18.4	18.2

Total residential corpsmembers: 2,869
Total non-residential corpsmembers: 351

Table II.5

Conditional Pattern of Attrition for Residential and Non-residential Corpsmembers

Number of Months in CCC (n)	Probability of Leaving After Month n	
	Residential	Non-residential
0	23.0	20.2
1	13.8	15.0
2	16.1	18.9
3	15.3	18.1
4	12.9	12.7
5	11.0	8.0
6	11.7	7.1
7	11.4	13.6
8	9.5	14.7
9	10.6	12.6
10	11.3	7.9
11	10.4	8.6
Percent completing	18.4%	18.2%

Total residential corpsmembers: 2,869
Total non-residential corpsmembers: 351

leaving in months two to four is less than the first month, but greater than later months. The average monthly probability of leaving in months 2-4 is 15.1 for residential corpsmembers and 17.3 for non-residential corpsmembers. The average probability of leaving in one of the last eight months is 11.1 for residential and 10.7 for non-residential corpsmembers. While there are some minor differences in the probability of leaving for various durations in the CCC, these differences certainly are not large.

Differences in the probability of leaving across months 5-12 in the non-residential component are probably related to the small sample size. Because there are fewer observations on non-residential corpsmembers, one would expect that the variation in the probabilities of leaving by month would have larger variation than for the much larger residential sample.

Academy Attrition

All 13 cohorts in the sample attended a residential training academy. This training period was 20 or 21 days for 10 of the 13 cohorts; for three cohorts it was 15 days long. Eighteen percent of all entering corpsmembers separate from the CCC while still in the training academy. Of those leaving, the average length of stay is 7 days. Thus most of those leaving the academy leave within the first week.

DEMOGRAPHICS AND THE TIMING OF ATTRITION

In this section the timing of attrition was analyzed by demographic groups. Two methods of analysis were pursued. First, completion and length of stay were examined for each of four demographic categories: race/ethnicity, sex, educational attainment and economic status. This bivariate analysis gives the simple relationship between the measures of attrition and each sub-group without taking into account the interrelationships among demographic and other factors. Second, multivariate analysis was used to determine the effects of each demographic variable, holding all other factors constant. Simply examining the attrition rate and mean duration by any single demographic factor such as race/ethnicity may be misleading if one is interested in determining the effect of race/ethnicity on attrition, holding everything else equal. This multivariate analysis includes both demographic and attitudinal variables.

Bivariate Analyses of Attrition by Demographic Group

In the bivariate analyses, the sample was stratified by race/ethnicity, sex, JTPA status, and education; the timing of attrition was analyzed for each sub-group. These statistics reflect gross differences across groups. When examining the

results for a particular demographic factor, say race/ethnicity, the fact that the other demographic factors--sex, JTPA status and education--may be different among ethnic groups was not taken into consideration. Thus the differences in length of stay among ethnic groups may be a result of differential levels of education, income or sex across the groups.

The analyses show that length of stay was quite similar across race, sex, and income groups, but that significant differences existed across level of education as corpsmembers with more education tended to stay much longer. The longer duration of stay for those with more education may reflect their greater ability to fulfill the CCC's requirements with regard to performance and discipline. The similarity in the timing of attrition across race/ethnicity, JTPA status and sex indicates that all of these groups were equally served, at least as measured by time spent in the CCC.

Race/Ethnicity

Representing only two percent of the program, Asians were most likely to stay in the CCC, with nearly 33.3 percent completing the program with an average duration of 6.3 months.[9] Overall, the differences in the timing of separations across other ethnic groups were not large. Of the three largest groups -- whites, blacks, and Hispanics -- when attrition was measured either by percent completing the program or by duration, Hispanics were the most likely to stay -- 20.0 percent completed the program, and the average duration was 5.5 months. Nineteen percent of whites completed the program and had an average duration of 5.1 months. Blacks had the lowest program completion rate, 15.7 percent, and the shortest duration, 4.7 months. These results are shown in Table II.6. If one focuses on the three largest ethnic groups, whites, blacks, and Hispanics, there is a small but statistically significant difference only between blacks and Hispanics in the length of stay. The difference between whites and either Hispanics or blacks in length of stay was insignificant. There were no significant differences among the three groups in percent completing the program.

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[9] The Asian category includes 43 individuals classified as "Asian" and 20 individuals classified as Filipino. This category is quite small relative to the black, Hispanic and white categories. Even though the sample of Asians is very small, the percent completing and average duration are significantly different from blacks and from whites at the five percent confidence level. Asians have completion rates but not durations which are significantly different from Hispanics.

Table II.6

Program Completion and Duration by Race/Ethnicity

Race/ Ethnicity	Number in Sample	Percent Completing	Mean Duration in Months	Median Number of Days
Black	821	15.7%	4.7	98
Hispanic	441	20.0	5.5	133
White	1,788	18.7	5.1	108
Asian	63	33.3	6.3	184
Native American	86	17.4	5.1	102
Other	21	19.0	4.0	42

Sex

There were no statistically significant nor substantively important differences between men and women in percent of completion and mean length of stay. Slightly more women (20.8%) than men (17.6%) completed the full year at the CCC. Likewise, the average stay for women (5.3 months) was a bit longer than the average for men (5.0 months). These results are shown in Table II.7.

Educational Attainment

The effects of education on length of stay were quite large. Corpsmembers with more education stay in the corps much longer than those with less education. Table II.8 shows the percent completing the program and average length of stay by education. The sample was divided into three groups, those completing less than 12 years of school, those with 12 years, and those with more than 12 years of school. With over 30 percent completing, corpsmembers with more than 12 years of education had completion rates almost 2.4 times higher than those with less than 12 years of education and 1.4 times higher than those with exactly 12 years of education. The difference in length of stay was large as well. The most highly educated group had a mean duration of 6.3 months; those with 12 years had a mean of 5.5 months; those with less than 12 years of education had a mean length of stay of 4.4 months.

The differences in attrition by education group existed for all levels of duration in the program. Those with less education were more likely to leave than other corpsmembers in the early months. The conditional pattern of attrition by education is shown in Table II.9. These patterns held for more desegregated educational groups as well.

JTPA Status

In light of the findings on education and attrition, and the relationship between educational and economic status, one might expect JTPA status to be strongly related to attrition. Over 48 percent of all corpsmembers were JTPA eligible.[10] However, only

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[10] The CCC does not use income as a criterion for selection, and, thus, does not actually certify enrollees for JTPA. However, as reported in The CCC: An Analysis of Participant Characteristics, P/PV estimates that 48 percent of the sample would be eligible for JTPA if they applied: 28 percent based on receipt of Food Stamps, AFDC or being a foster child, and 20 percent because of household income information. For details, see Appendix A: Determination of Disadvantaged Status in that report.

Table II.7

Completion and Length of Stay By Sex

	Male	Female
Number	2,454	766
Percent completing	17.6%	20.8%
Mean duration in months	5.0	5.3
Median number of days	105	117

Note: The differences between sexes in completion and length of stay are not statistically significant.

Table II.8

Program Completion and Duration by Education

Education	Number in Sample	Percent Completing	Mean Duration in Months	Median No. of Days
Less than 12	1,644	13.1%*	4.4*	93
12 years	1,222	21.8 *	5.5*	124
More than 12	354	30.8 *	6.3*	173

*Denotes statistically significant difference from one another at the .05 level.

Table II.9

Conditional Pattern of Attrition by Education

Number of Months in CCC (n)	Probability of Leaving After n+1 Months Conditional on Tenure of n Months		
	Less Than 12 Years of Schooling	12 Years of Schooling	More Than 12 Years of Schooling
0	24.9%	20.9%	18.9%
1	16.4	12.6	8.0
2	18.8	14.6	12.9
3	18.4	14.0	10.9
4	16.0	11.0	8.8
5	13.7	8.9	7.0
6	13.1	9.3	10.9
7	15.3	9.4	7.7
8	10.7	11.4	4.9
9	15.0	9.0	5.9
10	11.9	10.2	10.9
11	11.9	11.0	4.4
12 (completed)	13.1	21.8	30.8

small though significant differences in attrition existed between those who were JTPA eligible and those who were not. In all, 17.2 percent of JTPA-eligible corpsmembers completed the program with a mean length of stay of 4.8 months. The corresponding percentages for those who were not JTPA eligible were 19.4 and 5.3 months, respectively. The difference in completion rates was not significant while the difference in length of stay was. This information is shown in Table II.10. The pattern of attrition for the two groups was similar as is evidenced in Table II.11.

Summary of Bivariate Analyses

In summary, the timing of attrition was remarkably similar across race/ethnicity, sex and JTPA status, but was significantly related to level of education; the more educated corpsmembers stayed longer. Even though education had a relatively strong effect, if all corpsmembers who did not have more than a high school education were eliminated -- about 90 percent of the sample -- the mean length of stay would increase by about a month, or 20 percent.

Multivariate Analyses

Simply examining the attrition rate and mean duration by any single demographic factor such as race/ethnicity may be misleading. For example, if one is interested in determining the effect of race/ethnicity on attrition, one usually wants to isolate the effect by holding everything else constant. There may be many attitudes and other demographic factors affecting attrition and duration, such as education, sex, personal income, and family status. If these factors were excluded from an analysis of race/ethnicity and attrition, to the extent they are correlated with race/ethnicity, their impact appears in differential ethnic attrition rates. Results from several multivariate models are examined to isolate the impacts of demographic factors on attrition. Information on family structure and attitudes is included as well. The variable descriptions and means are shown in Table II.12. The main results evident in these models are quite robust. Many other specifications including additional attitudinal variables and age were examined as well; those variables lacked significance and there was little change in the coefficients for other specifications. Much of the section is a bit technical, but such technicality is needed to discern the underlying relationships.

Program Completion

Table II.13 shows results of two probit estimations, one explaining program completion for the whole sample and another predicting completion for those who made it through the first month. The two samples were used because it was suspected that

Table II.10

Program Completion and Duration of Stay by JTPA Status

JTPA Status	Number in Sample	Percent Completing	Mean Duration in Months	Median Number of Days
Eligible	1,522	17.2%	4.8*	97
Not eligible	1,668	19.4	5.3*	120

*Denotes statistically significant difference from one another at the .05 level.

Table II.11

Conditional Pattern of Attrition by JTPA Status

Number of Months in CCC (n)	Probability of Leaving in Month n+1	
	Eligible	Not Eligible
0	23.3	22.2
1	15.7	12.3
2	18.2	14.8
3	17.3	14.2
4	13.5	12.4
5	9.9	11.4
6	11.3	11.0
7	10.4	12.5
8	10.0	10.2
9	10.8	10.9
10	11.3	10.7
11	10.7	9.7
12	17.2	19.4

Table II.12

Variables Used In The Multivariate Analyses

Variable	N	Mean	Type	Description
Left 1 month	3,220	.23	Dummy	Left in 1st month of program
Asian	3,224	.02	Dummy	Asian or Filipino
Black	3,224	.25	Dummy	Self-explanatory
Complete	3,220	.18	Dummy	Completed the program
Drink	3,211	3.96	Categorical	1- several times a day to 5- rarely or never
Education	3,220	11.44	Continuous	Highest grade completed
Has kids	3,218	.10	Dummy	Self-explanatory
Hispanic	3,224	.14	Dummy	Self-explanatory
JTPA	3,225	.48	Dummy	Eligible for JTPA assistance
Large city	3,185	.37	Dummy	From urban area
Leave school	3,207	.12	Dummy	Left school for CCC
Letdown	3,204	3.05	Categorical	1 - letting friends is OK to 5 - letting friends is wrong
Male	3,224	.76	Dummy	Self-explanatory
Married	3,211	.02	Dummy	Self-explanatory

Table II.12 - (cont'd)

Variable	n	Mean	Type	Description
Move away	3,143	3.22	Categorical	1 - right now I would like to move away from the town I live in 7 - right now I would like to stay where I am
Native American	3,224	.03	Dummy	Native American (Not white, black, Hispanic or Asian)
Physical	3,149	2.99	Categorical	1 - prefers job with physical activity to 7 - rather not have job with lots of physical activity
Residential	3,224	.89	Dummy	Residential program
Use lands	3,208	4.13	Dummy	1 - using lands for parks is not important to 5 - using lands for parks is important

Note: Many other variables were examined. This table displays only those presented in this report; others contributed little to the explanation of the variance in completion or length of stay.

Table II.13

Probit for Program Completion

	Whole Sample		Sample Excluding Those Leaving in the First Month	
Variable	Coefficient	Probability	Coefficient	Probability
Intercept	-2.59*	-.65	-2.50*	-.56
Asian or Filipino	0.59	.15	0.60*	.14
Black	-0.03	.05	-0.07	.02
Hispanic	0.16	.04	0.12	-.03
Native American	0.06	.01	0.02	.003
Male	-0.01	.003	-0.05	-.01
Drink	0.08*	.02	0.08*	.02
Education	0.13*	.03	0.14*	.03
Haskids	-0.35*	-.09	-0.31*	-.07
JTPA	0.01	.002	0.01	-.002
Large city	-0.13*	-.03	-0.10	-.02
Leave school	-0.05	-.01	-0.10	-.02
Letdown	0.04	.01	0.02	.004
Married	-0.11	-.03	0.63	.01
Moveaway	-0.05	-.01	-0.05*	-.01
Physical	-0.01	-.001	0.01	.002
Residential	-0.13	-.03	-0.06	-.01
Use lands	0.02	-.01	0.01	.001
Number of observations = 3,051			Number of observations = 2,363	
R^2 = .039			R^2 = .039	

*Statistically significant difference from zero at the .05 level

the factors affecting attrition in the first month might be quite different from those of subsequent months. Probit models are used to estimate the impacts of independent variables on a dichotomous dependent variable. The estimated parameters can be interpreted as the marginal change in probability that an event will occur with a one unit change in the independent variable, holding all other factors constant.[11]

First, consider equation (1) which is based on the whole sample. Even though there are several significant factors affecting program completion, the probit model predicts only four of 560 or .7 percent of all those leaving. The approximate R^2 is only 3.9 percent.[12] Very little of the total variation in attrition is explained. Attrition is obviously very difficult to predict with the data available on personal characteristics and program experiences.

The coefficients on the dummy variables for race/ethnicity indicated that only Asians had completion probabilities significantly greater than those of whites. Blacks and Native Americans did not differ significantly from whites in their probability of completion. The coefficients on the sex, JTPA status and residential status variables were not significantly different from zero, and therefore did not affect the probability of completion. These findings are roughly consistent with the earlier bivariate analyses of attrition and race/ethnicity, sex, and JTPA status. Education (Educ) affected the probability of completion more than any other factor as an increase of one year of education increased the probability of program completion by three percent. This finding is consistent with the earlier, simple comparison of completion by education. Moreover, it appears that education also explains some of the variance formerly attributed to race/ethnicity and JTPA status.

Other important determinants of completion are whether or not the corpsmember has children (Haskids), how frequently they drink alcoholic beverages (Drink), whether they came from a large city (Large city), and whether they joined the CCC to get away from

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[11] The probabilities were calculated at the mean values of the explanatory variables. They should be interpreted with caution, especially with respect to dichotomous independent variables, because there are no individuals with the mean value. For example, there are no individuals who are half female.

[12] The R^2 was calculated from the ratio of the value of the likelihood function for a model with all of the explanatory variables and one with only an intercept term.

home (Moveaway).[13] Corpsmembers with children, from large cities, and those who frequently consume alcohol had a lower probability of completion. One would expect that corpsmembers with familial responsibilities would be less likely to stay in the CCC given its predominantly residential nature. One possible reason individuals from large cities may be less likely to complete is that the rural atmosphere of roughly half of the CCC centers may not be appealing to them. Finally, it is not surprising that prior alcohol consumption is related to attrition as alcohol consumption is grounds for termination from the CCC. On the other hand, those who wanted to get away from home had a higher probability of completion. Again this is not surprising, since individuals with a desire to move away from home may find the residential experience of the CCC attractive.

The second estimation in Table II.13 has the same set of independent variables but is based on a sample which excludes all those who left in the first month. With this sample, one can focus on attrition after the relatively large adjustment process in the first month has occurred. The results are similar except that the variation by ethnic group is even smaller. The probit model correctly predicts only 2.3 percent of those leaving, so the proportion of total variance explained by the independent variables is similar to that in the entire sample with an R^2 of .039.

First Month Attrition

The high rate of attrition in the first month warrants a separate analysis. Table II.14 contains the results of a probit estimation of the factors affecting first month attrition. What is particularly interesting about this estimation is that race/ethnicity, education, sex, JTPA status and even education are all statistically insignificant. Variables which are insignificant in determining attrition after the first month are, on the other hand, significant in the first month. These include marriage, original residence in a large city (Large city), residential status (Res), whether they left school to take the position (Leavesch), poor physical condition (Physical), which are all positively related to dropping out in the first month. If corpsmembers dislike letting people down (Letdown), and if they think using land for parks is a good idea (Useland), they are less likely to leave in the first month. Thus, an individual's

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[13] Other specifications were examined to see if women with children and married corpsmembers in residential centers had a smaller chance of completing than all women and all married people respectively. The specifications did not result in significant coefficients on the interaction terms, e.g. male with Haskids, and Residential with married.

Table II.14

Probit for Leaving in the First Month

Variable	Coefficient	Probability
Intercept	-0.25	-.10
Asian	-0.16	-.06
Black	-0.14*	-.06
Hispanic	-0.17*	-.07
Native American	-0.13	-.05
Male	-0.13*	-.05
Drink	-0.04	-.01
Education	-0.03	-.01
Haskids	0.29*	.12
JTPA	-0.02	-.01
Large city	0.15*	.06
Leave school	-0.19*	-.08
Letdown	-0.08*	.03
Married	0.51*	.21
Moveaway	0.05*	.02
Physical	0.04*	.02
Residential	0.29*	.12
Use lands	-0.07*	-.03
Number of observations	3,051	
R^2 adjusted	.041	

*Statistically significant from zero at the .05 level.

attitudes are significantly related to the probability of completing the first month.

It appears that attitudes and family structure variables are much more important for attrition in the first month than in later months. Some of the variables--Physical, Use lands and Letdown--which are significant for first month attrition indicate how well prepared, both physically or emotionally, the individual is for entrance to the CCC. Those who are in good condition are likely to find the work of the CCC less burdensome while those who think the CCC is doing valuable work are likely to find it more rewarding. Those who dislike letting other people down are more likely to find the cooperative atmosphere of the CCC attractive. On the negative side, those who leave school may be a self-selected group that is less likely to complete any task. Finally, those entering residential programs may have higher first month attrition because they probably had less information about the corps since they were never interviewed by CCC staff prior to entering.[14]

One surprising result is that blacks are less likely than others to drop out in the first month after controlling for all other factors. This is consistent with the fact that most first month departure is voluntary, but most black attrition is involuntary, as will be noted in the next chapter.

In summary, more factors are significantly related to first month attrition than are related to attrition in the subsequent 11 months. Attitudes, physical condition, family structure, background, race/ethnicity and residential status all all seem to play a role in first month attrition. Still, even though these factors are statistically significant determinants of first-month attrition, their predictive power is small. First-month attrition is only slightly more predictable than later attrition.

Length of Stay

Table II.15 contains results of regressions for length of stay and also for the length of stay for those who stay more than one month. Again the two samples were examined because early attrition experiences seem to be quite different from later months. By looking at a sample which excludes early leavers, one can focus on the determinants of length of stay after the initial adjustment period. The results are quite similar to those for

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[14] The recruitment methods of the CCC residential corpsmembers have changed quite substantially over the last two years. Entering corpsmembers are now likely to have been briefed about the CCC by a CCC employee.

Table II.15

Regression for Length of Stay

Variable	Whole Sample Coefficient	Sample Excluding Those Leaving in the First Month Coefficient
Intercept	15.15	23.38
Asian	57.39*	60.08*
Black	9.89	2.27
Hispanic	28.81*	23.38*
Native American	12.43	6.18
Male	2.58	-5.83
Drink	7.88*	8.49*
Education	10.38*	11.50*
Haskids	-46.06*	-43.84*
JTPA	-5.03	-6.97
Large city	-15.78*	-9.70*
Leave school	8.71	-1.49
Letdown	5.73*	2.38
Married	-37.19*	-10.91
Moveaway	-4.08*	-1.85
Physical	-2.95*	-0.71
Residential	-10.84	5.22
Use lands	5.65*	3.16
Number of observations	3,051	2,363
R^2 adjusted	.056	.046

*Statistically significant difference from zero at the .05 level.

completion. In the whole sample regression, Asians and Hispanics have significantly longer durations than all ethnic groups. Asians stay almost 1.6 months longer than whites while Hispanics stay .9 months longer, holding everything else constant. Residential status, sex and JTPA status do not affect length of stay. Education is strongly related to duration; one additional year of education results in an 11-day increase in duration. If the individual has children, the average duration is reduced by 1.5 months. Marriage reduces duration by 1.3 months. Other variables which are significantly related to duration are: alcohol consumption (-), former residence in a large city (-), joined CCC to get away from home (+), good physical condition (+), and attitude variables which favor use of land for parks (+) and "don't like to let people down" (+).

If those who leave in the first month are excluded from the sample, the only significant variables which remain are positive effects for Asians and Hispanics, positive effects for education, and negative effects for children and alcohol consumption. However, very little of the variation in duration can be explained with the available information.

III. REASONS FOR LEAVING

From an assessment perspective, the reasons for individuals leaving the CCC before they complete 12 months may be as important as when they leave. Attrition can reflect the success of the program in enhancing the corpsmembers' opportunities outside the CCC, or it can reflect the failure of the youth to conform to the CCC's strict work and conduct requirements. Voluntary departures, therefore, have very different implications than do involuntary dismissals. Of course, attrition can result from a multitude of other random events as well, but attrition resulting from those random events is less relevant from a policy perspective.

The reasons for leaving are discussed for the entire program, then for program components, and finally by demographic groups. Simple crosstabs were used to evaluate the reasons for leaving by program components and demographic groups.[15] Multivariate analyses were used to evaluate the effects of demographic, program and attitudinal variables on voluntary and involuntary departures.

OVERALL REASONS FOR LEAVING

Data have been collected on the youths' reasons for leaving the CCC. These reasons and the percentage leaving for each reason are presented in Table III.1. These reasons were grouped into involuntary separations imposed by the CCC staff and voluntary separations based on youths' decisions. About 43 percent of the corpsmembers who left were asked to leave for code violations. The most frequent code violations were: "center policies", 9.9 percent;" alcohol and drugs", 8.0 percent; and "conduct", 7.7 percent. CCC policy states:

"Corpsmembers must comply with all policies established at the center, which may include but are not limited to those rules governing: health, hygiene, safety, community living, evening programs, physical training and fitness, punctuality, work habits and vehicles. Failure to comply with center policies and regulations may result in termination or disciplinary action as described in departmental directives."

Alcohol and non-prescription drugs are forbidden in the CCC. With regard to "conduct", the CCC states:

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[15] Unless otherwise stated, the percentages presented in this chapter of the report are based on the number of corpsmembers who left the CCC prior to completion of their 12-month term. Considering all corpsmembers in the sample, 56 percent left voluntarily.

Table III.1

Corpsmembers' Reasons for Leaving the CCC

Reason for Leaving*	Percentage of Total Leaving**
Voluntary Departures	57%
Accept other employment	8.9%
Return to school	1.8
Military service	0.7
Seek other employment	5.8
Medical separation	6.1
Family-related problem	3.7
Get married	0.4
Program adjustment	13.5
Tired of program	6.3
Friend separated	0.9
Other	8.8
Non-Voluntary Departures	43%
Conduct	7.7%
Center policies	9.9
Alcohol/drugs	8.0
Insubordination	2.5
Fighting/Violence	4.3
Unlawful acts	1.6
Weapons	0.1
AWOL	7.3
Refusal to participate in emergency work	0.5
Circumvention of reinstatement procedures	1.0

*Reasons are listed according to categories used by the CCC. These reasons are collapsed in other tables.

**Percentages reported are percentages of those who left, e.g., 57 percent of those who left did so voluntarily.

> Corpsmembers have a responsibility to work cooperatively for the betterment of the center and the CCC as a whole, both on and off duty. Conduct showing lack of good judgment or cooperation, disrespect for racial, sexual, or individual differences, or an unwillingness to assume Corpsmember responsibilities may be grounds for termination.

The most common reasons for individuals voluntarily leaving the CCC were "program adjustment", 13.5 percent, and "accept other employment", 8.9 percent. "Program adjustment" includes any corpsmember who resigns during the first three months with the CCC because: the program did not meet expectations; he/she felt misled by the Employment Development Department; the work proved too difficult or too vigorous; he/she was homesick; he/she could not adjust to residential program regime, discipline, etc.

Residential and Non-residential Programs

The reasons given for leaving the CCC were similar for residential and non-residential corpsmembers as well. About 39 percent of all non-residential corpsmembers who did not complete the program were asked to leave because of code infractions; the corresponding figure for residential corpsmembers was 43 percent.

Reasons for Early Attrition

The rate of voluntary departures was much higher in the first month than in subsequent months. Of the 732 corpsmembers who left in the first month, 71.3 percent left voluntarily, compared to 57.1 percent of all corpsmembers who left. Since the latter percentage includes those leaving in the first month, the actual difference in the rate of voluntary departures between month one and months two through 12 is even larger than these figures indicate.

Table III.2 shows the conditional probability of corpsmembers leaving voluntarily and involuntarily by number of months' stay before leaving. It indicates that, after the first month, the rate of voluntary departures remains fairly stable, while the rate of involuntary departures peaks slightly in month three and then declines slowly over time.

DEMOGRAPHICS AND REASON FOR LEAVING

Unlike the timing of attrition, there were large differences in the reasons for leaving across demographic groups. Blacks, males, and those with less education were fired much more often than others. The reasons for departure indicated that program experiences as reflected in attrition were quite varied across demographic groups.

Table III.2

Conditional Probability of Voluntary and Involuntary Separations by Month

Number of Months in CCC (n)	Voluntary Separations (Month n+1)	Non-voluntary Separations (Month n+1)
Less than 1	16.2	6.5
1	6.8	7.1
2	7.5	8.9
3	7.5	8.2
4	7.0	6.0
5	5.3	5.4
6	6.3	4.9
7	6.0	5.5
8	5.4	4.7
9	6.6	4.2
10	6.6	4.3
11	7.3	2.9

The analysis that follows was done in two parts, as was the analysis of the timing of attrition. First, the reasons for leaving were examined separately by demographic group in a bivariate analysis. Second, a multivariate analysis was used to try to determine the effect of each of the demographic and attitudinal variables on whether corpsmembers left voluntarily or were fired, holding all other variables constant.

Bivariate Analyses

Race/Ethnicity

While it appeared that there were no significant differences in the timing of attrition across the three largest ethnic groups, examination of the reasons for departure indicated that program experiences as reflected in attrition may be quite varied across ethnic groups. Fifty-three percent of black entrants who left before 12 months were asked to leave for CCC rule infractions. The corresponding figures for Hispanics and whites were 41.6 and 38.5 percent respectively. Table III.3 contains a breakdown of the reasons for leaving by race/ethnicity. The reasons for leaving in the first half of the table were considered voluntary departures while those in the second half were non-voluntary. Breakdown of the involuntary departures indicated that the differences among the three major ethnic groups in "serious rule infractions" were quite small.[16] Most of the differences were in the conduct or center policies categories. For example, 28.5 percent of all (voluntary and involuntary) black departures were for one of these two reasons while the corresponding figure for whites was 19.1 percent. Thus, most of the difference in the rates of involuntary departure among blacks and whites can be

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[16] Serious Rule Infractions: alcohol/drugs, insubordination, fighting/violence, unlawful acts and weapons.

Conduct: "Corpsmembers have a responsibility to work cooperatively for the betterment of the center and the CCC as a whole, both on and off duty. Conduct showing lack of good judgment or cooperation, disrespect for racial, sexual, or individual differences, or an unwillingness to assume corpsmember responsibilities may be grounds for termination."

Center Policies: "Corpsmembers must comply with all policies established at the center, which may include but are not limited to those rules governing: health, hygiene, safety, community living, evening programs, physical training and fitness, punctuality, work habits, and vehicles. Failure to comply with center policies and regulations may result in termination or disciplinary action as described in department directives.

Table III.3

Race/Ethnicity and Reason for Leaving the CCC

	Black	Hispanic	White	Native Asian	American	Other
Voluntary Departures	**47.0%**	**58.4%**	**61.5%**	**69.0%**	**54.9%**	**47.1%**
Job/Military service	7.7	8.8	10.1	11.9	9.9	11.8
School	0.1	2.5	2.2	2.4	4.2	0.0
Family or health reasons	7.5	11.6	11.0	7.1	7.0	5.9
Look for work	4.5	4.8	6.5	14.3	5.6	0.0
Dissatisfaction with the CCC	17.8	17.6	21.5	14.3	16.9	23.5
Other	9.1	13.0	10.0	19.0	11.2	5.9
Non-voluntary Departures	**53.0%**	**41.6%**	**38.5%**	**31.0%**	**45.1%**	**52.9%**
Conduct or policy	28.5	17.0	19.1	11.9	15.5	23.5
Serious rule violation	16.3	15.9	12.3	9.5	19.7	23.5
AWOL	7.4	8.8	6.7	9.5	9.9	5.9
Emergency work	0.1	0.0	0.1	0.0	0.0	0.0

Note: Percentages reported are based on the totals of those who left, by categories; e.g., 47.0 percent of the blacks who left did so voluntarily.

accounted for in the difference in these two codes. The differences among the voluntary categories were quite small. Note that in Table III.4 almost all of the voluntary categories are smaller for blacks since they have a smaller overall voluntary rate of departure.

The relatively high rate of involuntary departures by blacks continued, even as their length of stay increased. Table III.4 shows the non-voluntary departure rates by blacks and whites by length of stay.

Sex

The length of stay for males and females was similar, but as was the case with race/ethnicity, their reasons for leaving were dramatically different. Over 48 percent of all males were asked to leave the CCC while only 25 percent of females left non-voluntarily. Table III.5 shows the reasons why corpsmembers left stratified by sex.

Males had much higher rates of serious rule violations (16.3 percent of all departures) than did females (6.4 percent of all departures.) Males also have higher rates of dismissal for less serious offenses. In all, 23.8 percent of males left because of "conduct" or "center policies", compared to 12.0 percent of females.

The largest difference between sexes in voluntary departures was in "dissatisfaction with the CCC". Overall, 26.9 percent of all women who left cited dissatisfaction with the CCC; the figure for males was only 17.7 percent. The rates of leaving for job opportunities were quite similar for both groups at 9.1 percent for males and 10.0 percent for females.

Education

Individuals with less education were fired much more often than those with more education. For those with less than 12 years of education, 52.7 percent of all departures were involuntary, but for those with more than 12 years of education, only 26.9 percent of the departures were involuntary.

Examination of the individual codes in Table III.6 revealed that the greatest difference in involuntary departures among those with less than 12 years of education and those with more than 12 years is in the "conduct" or "center policies " codes. That is, 23.2 percent of the lower education group left for "center policies" or "conduct," while only 8.6 percent of the higher education group gave these reasons for leaving.

An examination of voluntary departures indicated that the more educated corpsmembers were also more likely to leave the CCC to

Table III.4

Black and White Departures By Length of Stay and Reason for Leaving

Probability of Leaving in Month n + 1

Month (n)	Black		White	
	Voluntary Departure	Non-Voluntary Departure	Voluntary Departure	Non-Voluntary Departure
0	14.9	9.7	17.3	4.6
1	4.9	7.6	7.5	6.9
2	11.7	8.2	8.5	6.2
3	5.3	13.6	8.6	7.4
4	5.1	7.4	7.9	6.0
5	5.8	3.6	5.4	5.9
6	6.1	9.0	5.9	4.2
7	3.4	5.5	6.6	5.4
8	4.2	7.9	5.3	3.5
9	7.4	6.3	6.3	3.7
10	6.7	6.7	7.0	3.1
11	6.3	2.8	7.2	3.7

Table III.5

Reason For Leaving by Sex

	Male	Female
Voluntary Departures	51.6%	75.3%
Job/Military service	9.1%	10.0%
School	1.5	2.8
Family or health reasons	8.7	14.3
Look for work	5.3	7.2
Dissatisfaction with the CCC	17.7	26.9
Other	9.3	13.8
Non-voluntary Departures	48.4%	24.7%
Conduct or policy infraction	23.8%	12.0%
Serious rule violation	16.3	6.4
AWOL	7.8	5.8
Emergency work	0.1	0.1

Note: Percentages reported are based only on those who left before completing the program, e.g., 51.6 percent of the males who left did so voluntarily.

Table III.6

Educational Level and Reason for Leaving

	Less Than 12 Years	Twelve Years	More Than 12 Years
Voluntary Departures	52.7%	59.5%	73.1%
Job/Military service	7.5%	10.5%	15.5%
School	1.2	1.8	5.7
Family or health reasons	8.9	11.4	10.6
Look for work	4.9	6.0	10.2
Dissatisfaction with the CCC	20.0	19.8	18.4
Other	10.2	10.1	12.7
Non-voluntary Departures	47.3%	40.5%	26.9%
Conduct or policy infraction	23.2%	21.2%	8.6%
Serious rule violation	15.3	12.8	11.8
AWOL	8.4	6.1	5.7
Emergency work	0.1	0.1	0.1

Note: Percentages reported are based only on those who left before completing the program, e.g., 52.7 percent of those with less than 12 years of education who left did so voluntarily.

take another job. Of those with lesser education, 7.5 percent left to take jobs, but 15.5 percent of the higher education group left for other employment opportunities. The only voluntary departure category which included more of the less educated corpsmembers was "dissatisfaction with the CCC." Twenty percent of all departures by the less educated group were for dissatisfaction with the CCC. The corresponding figure for the highest educated group was 18.4 percent. Put another way, 40 percent of all corpsmembers with less than a 12th grade education who leave voluntarily quit because of dissatisfaction with the CCC; of those with more than 12 years of schooling only a fourth leave for that reason.

JTPA Status

The difference in the rates of involuntary departures by JTPA status is small. Of those who are JTPA eligible, 44.9 percent of those who left were fired while 41 percent of departing corpsmembers who were not JTPA eligible were fired. The more disaggregate categories shown in Table III.7 confirm the similar treatment of the two groups.

Multivariate Analyses

A probit estimation was made to predict voluntary and non-voluntary attrition. The results of this estimation are shown in Table III.8. The sample consisted of all those who did not complete the full 12-month term. More of the variation in voluntary-involuntary departures is explained with the independent variables than in the probits for completion. The R^2 is .076. These estimations indicated that blacks, males, and poorly educated individuals had a significantly higher probability of being fired. Individuals with a prior history of alcohol consumption also had a significantly higher probability of involuntary departure. Married individuals had a lower probability of leaving involuntarily as did individuals who joined the CCC specifically to get away from home. These results were generally consistent with bivariate analyses.

Table III.7

JTPA Eligibility and Reason for Leaving

Reason	JTPA Eligible	Not JTPA Eligible
Voluntary Departures	55.1%	59.0%
Job/Military service	8.5%	10.1%
School	1.3	2.3
Family or health reasons	8.7	14.3
Look for work	5.8	5.8
Dissatisfaction with the CCC	20.2	19.3
Other	10.4	10.3
Nonvoluntary Departures	44.9%	41.0%
Conduct or policy infraction	22.9%	19.4%
Serious rule violation	14.1	14.0
AWOL	7.6	7.0
Emergency work	0.1	0.1

Note: Percentages reported are based only on those who left before completing the program, e.g., 55.1 percent of were JTPA eligible corpsmembers who left did so voluntarily.

Table III.8

Probits for Involuntary Departures

	Whole Sample		Excluding Those Who Left in the First Month	
Variable	Coefficient	Probability	Coefficient	Probability
Intercept	0.75*	0.31	1.30*	0.62
Asian	-0.12	-0.05	-0.59	-0.28
Black	0.48*	0.20	0.42*	0.20
Hispanic	-0.09	0.04	-0.04	-0.02
Number	0.17	0.07	0.13	0.06
Male	0.58*	0.24	0.59*	0.28
Drink	-0.06*	-0.03	-0.06*	-0.03
Educ	-0.11*	-0.04	-0.14*	-0.06
Haskids	-0.01	-0.01	0.01	0.01
JTPAS	0.04	0.01	-0.01	-0.01
Large city	0.02	0.01	0.04	0.02
Leave school	0.08	0.03	0.07	0.03
Letdown	-0.01	-0.01	-0.03	-0.02
Married	-0.48*	-0.20	-0.10	-0.05
Moveaway	-0.03*	-0.01	-0.02	-0.01
Physical	-0.01	-0.01	0.01	0.01
Residential	0.06	0.02	0.10	0.05
Use lands	-0.01	-0.01	-0.02	-0.01
Number of observations = 2,490			Number of observations = 1,803	
R^2 = 0.08			R^2 = 0.09	

*Statistically different from zero at the .05 level.

IV. ISSUES

Based on the statistical description of attrition in the last two chapters, four findings deserve additional attention, each of which are discussed in depth below. These findings are:

- The difficulty of predicting attrition: There are few prospects for reducing attrition by changing admission requirements.
- The stability of the ethnic, sexual and economic composition of the corps: Attrition produces little change in the mix of corpsmembers over time.
- Differential attrition between the first month and later months: Attrition is much higher in the first month, and the bulk of first month attrition is voluntary.
- Differential attrition according to educational background: Corpsmembers with more education stay longer and are more likely to leave voluntarily.

UNPREDICTABILITY OF ATTRITION

Neither program completion nor its complement, the decision to leave, nor length of stay are easily explained by the information available. Five kinds of factors can affect attrition: personal characteristics, personal attitudes, exposure to components of the CCC, a corpsmember's personal experience of the program, and events occurring outside the CCC. Data on events occurring outside the CCC, such as family problems or outside opportunities, cannot be measured. Furthermore, information on the corpsmember's individual experiences in the CCC is limited; whether a corpsmember is in the residential or non-residential component is known, but other concrete data on a youth's experience in the CCC are not available and if they were, would not be easily quantifiable. The only information available on the corpsmembers is their personal characteristics, attitudes and previous experience. As is evidenced by the very small amount of variation (3.9 percent for both program completion and length of stay) explained by the multivariate analysis predicting attrition, the data available at the beginning of the program are not sufficient for predicting accurately how long any individual will remain in the corps.

Since the vast majority of corpsmembers entered the CCC with the intention of staying the full term, explaining attrition with these types of variables amounts to explaining which individuals

have the persistence to stay in the CCC for the full 12-month term. One would not expect many of the variables such as race/ethnicity, sex or JTPA status to be systematically related to this experience. Education, on the other hand, might be, as persistence is one attribute which helps youth stay in school.

The inability to predict individual attrition with accuracy strongly suggests that it would be difficult to reduce attrition by changing admission standards. Any screening program that would lessen attrition would clearly reduce the access of less educated individuals to the CCC, since these individuals currently have the highest attrition rates. Moreover, the multivariate analysis indicates that any screening system is likely to be very inefficient in the sense that access to the CCC by less educated individuals would have to be greatly restricted in order to achieve a small reduction in attrition.

STABILITY OF ETHNIC, SEXUAL AND ECONOMIC COMPOSITION

Because the CCC is an untargeted program, important policy questions are who enrolls in the program and who is served. The analysis of participant characteristics indicated that the CCC attracts many who are either economically or educationally at risk. Since ethnic and income groups and the sexes have similar lengths of stay, attrition does not cause any change in composition of the corps in terms of these groups. The attrition analysis indicates that those who are JTPA eligible do not leave faster than others, but that those who are "educationally at risk" -- i.e., have not graduated from high school -- do have shorter lengths of stay. Thus attrition does disproportionately reduce the service delivered to those who are educationally at risk.

DIFFERENTIAL ATTRITION BETWEEN THE FIRST MONTH AND LATER MONTHS

First-month attrition, most of which is voluntary, is very high in the CCC, and most of it occurs in the first week. New entrants to the CCC appear to make a decision about the CCC very early.

Much of a corpsmember's first month is spent at the CCC training academy. The training period usually lasts three weeks, though in some months the training was limited to two weeks.[17] In

[17] Of the 13 intake periods in our sample, all but four had 21-day academy training periods. December had a 20-day period; both of the intakes in July and the intake in August had 15 days of training.

addition to training the recruits, the academy serves as the only screen of incoming corpsmembers. For residential corpsmembers, this is the first contact between the CCC staff and entrants. (Non-residential corpsmembers are interviewed by CCC staff prior to entering.) Many of those who are ill-suited for the CCC -- either from the youth's perspective or the CCC's perspective -- quit or are ejected during the academy training period. Eighteen percent of all entering corpsmembers drop out before finishing the academy training. About 29 percent of those are expelled from the CCC for rules infractions; the remainder leave voluntarily. Of the 732 who quit within the first month, 59.7 percent leave in the first week, 18.9 percent in the second, 10.4 percent in the third. After starting out very high, the attrition rate declines towards the level prevailing during work in the field.

The high attrition rate appears to be a result of a mismatch between the expectations of the CCC and the corpsmembers. If prospective corpsmembers were better informed about the corps prior to entry, or if the CCC had an opportunity to meet more of them in advance of the academy, perhaps attrition would be reduced because there would be fewer cases where expectations do not match the reality. The fact that early attrition by non-residential corpsmembers is lower than that of residential corpsmembers even though they attend the same training academy supports this notion. During the study year, non-residential corpsmembers were selected by CCC staff directly, while residential corpsmembers were selected by staff of referring agencies, most often the EDD (the California state unemployment office). Thus non-residential corpsmembers were more likely to have accurate information, and to have been screened against the CCC's expectations of them. As noted earlier, the CCC does now involve CCC staff more directly in recruitment and screening of applicants. Increased information may lower the number of <u>voluntary</u> departures -- the most serious cause of first-month attrition -- and increased screening will likely lower the <u>involuntary</u> departure rate among residential corpsmembers as well.

DIFFERENTIAL ATTRITION ACCORDING TO EDUCATIONAL BACKGROUND

Individuals with more education stay in the CCC much longer than those with less education. It is not clear that one should necessarily expect education to be positively correlated with completion or length of stay. On the one hand, those with higher education may be a selected group which is more persistent and therefore has a higher probability of completing. On the other hand, the more highly educated, while having substantial opportunities in the CCC, may have greater opportunities outside the CCC, and therefore may be expected to leave earlier.

In the CCC, the more educated stay longer and judging from their promotion record, perform better in the CCC. The increased length of stay by those with better performance is encouraged by the CCC's promotion policies. The data indicate that corps-members with more education receive a disproportionate share of the promotions. Only 8.1 percent of those with less than 12 years of education receive promotions but 13.7 percent of the middle education group and 20.3 percent of the higher education group receive promotions. Length of stay and promotion are simultaneously determined, since experience in the CCC is a pre-requisite for promotion, which probably results in an increased desire to stay. About two-thirds of all promotions occur after the 12-month period is over; still, the potential for promoting at the end of the first year may be an incentive for remaining in the CCC.

The link between educational attainment and performance in the CCC is further supported by the fact that over 47 percent of those with the least education are fired for code violations. The corresponding figure for the highest educated group is only 27 percent.

If it is assumed that education is positively related to performance in the CCC, it appears that the CCC encourages those who perform well to stay the longest. On the other hand, the policies do not appear to be compensatory in the sense that special efforts are made (perhaps efforts are made but are not successful) to increase the success of the educationally disadvantaged.

V. FINDINGS AND LESSONS LEARNED

The analysis of attrition rates and patterns in the California Conservation Corps produced the following major findings:

- Mean length of stay in the corps program is about five months and the median is 3.5 months. About one out of five youth who enter the corps remains for the full 12-month program. Mean length of stay for those corpsmembers who complete the first month (which includes the training academy) and go on to perform corps work is approximately six months.

- The greatest attrition occurs in the first month: 23 percent of all entering corpsmembers leave during the first four weeks; 18 percent leave during the training academy that begins the CCC experience; 12.7 percent leave during the first week. The conditional probability of leaving averages 15.3 in the second through fourth months and declines to an average of 11 in the subsequent seven months.

- The mean length of stay and attrition rates per month are virtually identical for residential and non-residential corpsmembers.

- Little of the variance in attrition can be explained by the available variables.

- Attrition in the first month is more strongly affected than that of later months by individual attitudes, physical condition and marital status. Race/ethnicity, sex, eligibility for Job Training Partnership Act services and even education are all unrelated to first month attrition. But other variables <u>are</u> significant in the first month: being married, coming from a large city, leaving a job to join the corps, being in poor physical condition and/or enrolling in a residential center are all positively related to dropping out in the first month. If corpsmembers dislike letting people down and if they think using land for parks is a good idea, they are less likely to leave in the first month. None of these variables are related to longer-term attrition.

- Neither race/ethnicity, sex nor income status is significantly related to overall length of stay. However, a corpsmember's level of education is: those youth with more than 12 years of education have an average length of stay of 6.3 months. Those with less than 12 years education stay an average of 4.4 months.

- Only two factors -- level of education and wanting to move away from home -- increase the probability of a corpsmember completing the 12-month program. Three factors reduce that probability: having children, reporting frequent consumption of alcohol and coming from a large city. The effects of all of these positive and negative effects are small.

- Of those corpsmembers who leave before completing the 12-month program, 57 percent leave voluntarily, and 43 percent are fired. Income status has no relationship to whether a youth resigns or is fired; however, sex, race and education do. Males (48 percent), blacks (53 percent), and those with less than 12 years of education (47 percent) are fired more often than females (25 percent), non-blacks (42 percent) and those with more than 12 years of education (27 percent).

LESSONS LEARNED

Among the five possible factors affecting attrition -- demographic characteristics; personal attitudes; exposure to programmatic components of the CCC (residential/non-residential centers, the training academy); the quality of a corpsmember's actual experience in the corps; and events occurring outside the corps -- analyses of the first three do not enable the corps to predict attrition well. The two remaining -- extraneous events, such as family illness and outside employment opportunities, and a corpsmember's actual experience in the corps -- cannot be predicted at the time a corpsmember enters the corp. These remain incalculable variables that affect attrition, both voluntary and involuntary.

Though unpredictable, some causes of attrition are discernable: inappropriate behavior results in being fired, and corpsmembers elect to leave to pursue other options. A moderate level of attrition is, on the one hand, functional. The corps maintains strict standards to ensure that productive work is done, rewards good work habits, and insists on conformity to rules as a conscious tool of training. Though these policies result in attrition, they may be useful in achieving production and youth de-

velopment objectives. On the other hand, substantial attrition can be dysfunctional and costly. The average CCC corpsmember is available for less than six months; this has potentially negative consequences for administration and for youth development programming.

Based on what analysis of demographic and personal characteristics can disclose, the following implications emerge:

- Poor and non-poor youth enrolled in this non-targeted program have similar retention experience. They stay roughly the same length of time and have roughly comparable patterns of attrition. An earlier report on the characteristics of participants in the CCC showed that the heterogenous mix of youth in the program included substantial proportions of economically disadvantaged youth. The attrition analysis shows that the CCC provides considerable service to such youth.

- Educationally disadvantaged youth, who are also enrolled in substantial numbers, have a more difficult time. They leave at higher rates than their more educated peers. Since the corpsmembers most in need of remedial educational services are more likely to leave early, services for them should be intensified during the first month of the program.

- Planning for all education, skills training, specialized center assignments, promotions and the like should take projected length of stay into account. In particular, if the CCC wants to maximize the likelihood that a corpsmember will be exposed to the most development opportunities, it should offer programs early, perhaps sequentially, with short-term as well as long-term products.

- Since length of stay cannot be predicted on the basis of information that can be measured at the time the corpsmember enters the corps, it is difficult to manage attrition by manipulating the composition of the corps. Attrition could not be substantially reduced by a change in entrance requirements. While education has marked effects on length of stay compared to other variables, all variables together still account for only a small amount of variance. Thus, raising the educational requirements for entrance to the

corps would be an inefficient strategy for reducing attrition.

- Attention to first-month attrition, however, would likely have an impact, since it is predominantly voluntary and appears related to identifiable personal attitudes and the presence or absence of accurate information about the corps. Increased information for applicants about the nature and demands of the CCC experience would likely reduce attrition by affecting the disjuncture between youths' expectations and experiences during the first month.

- There appears to be no one best time to intervene with retention incentives after the first month, since attrition starts out high, declines to lower levels in months two through four, declines a bit again in month five and then stays level from months five through 12. Incentives could be staged so as to affect attrition at different durations, and youth could be made aware of these incentives from the beginning of the program when attrition is the highest. In addition, extra support might be especially helpful during months one through four for corpsmembers with less education.

- Since women have roughly the same length of stay as men and are much less likely to be fired, the CCC and other youth corps programs may be reasonable strategies for providing many women with non-traditional work experience. The CCC places special emphasis on the recruitment of women in order to increase its proportion of females -- which has been as high as 38 percent but was 25 percent during the year of the study. Despite the problem of increasing female representation, it is clear that once women enroll, they remain at least as long as men.

The rates and patterns of attrition do not in themselves indicate the impact of the CCC on all participants or on any specific subgroups. Thus, no conclusions can be drawn about whether the CCC's mean length of stay is sufficient to affect participants' lives in terms of employability, attitudes or income. The impact study, to be published later this year, will address those questions.